UNITED STATES PATENT AND TRADEMARK OFFICE

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Duke Yee
Yee & Associates P C
4100 Alpha Road Suite 1100
Dallas, TX 75244

EXAMINER
LASTRA, DANIEL

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1   UNITED STATES PATENT AND TRADEMARK OFFICE
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4   BEFORE THE BOARD OF PATENT APPEALS
5   AND INTERFERENCES
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8   *Ex parte* FREDERICK D. BUSCHE
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11   Appeal 2008-004750
12   Application 09/879,491
13   Technology Center 3600
14
15
16   Decided:[1] May 28, 2009
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19   Before MURRIEL E. CRAWFORD, ANTON W. FETTING, and
20   BIBHU R. MOHANTY, *Administrative Patent Judges.*
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22   FETTING, *Administrative Patent Judge.*
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24
25   DECISION ON APPEAL
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27   STATEMENT OF THE CASE

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[1] The two month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

1   Frederick D. Busche (Appellant) seeks review under 35 U.S.C. § 134

2   of a non-final rejection of claims 1-8, 10-22, 24-35, and 37-43, the only

3   claims pending in the application on appeal.

4   We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b)

5   (2002).

6   We AFFIRM-IN-PART.

7   The Appellant invented a way of predicting customer behavior based

8   on data network geography (Specification 3:6-8).

9   An understanding of the invention can be derived from a reading of

10 exemplary claims 1, 15, 29, and 41-43 which are reproduced below

11 [bracketed matter and some paragraphing added].

12   1. 1. A data processing machine implemented method of
13   selecting data sets for use with a predictive algorithm based on
14   data network geographical information, comprising data
15   processing machine implemented steps of:

16   [1] generating a first statistical distribution of a training data
17   set;

18   [2] generating a second statistical distribution of a testing data
19   set;

20   [3] using the first statistical distribution and the second
21   statistical distribution to identify a discrepancy between the first
22   statistical distribution and the second statistical distribution
23   with respect to the data network geographical information by
24   comparing at least one of the first statistical distribution and the
25   second statistical distribution to a statistical distribution of a
26   customer database to determine if at least one of the training
27   data set and the testing data set are geographically
28   representative of a customer population represented by the
29   customer database;

30   [4] modifying selection of entries in one or more of the training
31   data set and the testing data set based on the discrepancy

1   between the first statistical distribution and the second
2   statistical distribution; and

3   [5] using the modified selection of entries by the predictive
4   algorithm.

5

6   15. An apparatus for selecting data sets for use with a predictive
7   algorithm based on data network geographical information,
8   comprising:

9   [1] a statistical engine;

10   [2] a comparison engine coupled to the statistical engine,

11   wherein the statistical engine

12   generates a first statistical distribution of a training data set and
13   a second distribution of a testing data set,

14   the comparison engine

15   uses the first statistical distribution and the second distribution
16   to identify a discrepancy between the first statistical distribution
17   and the second distribution with respect to the data network
18   geographical information by comparing at least one of the first
19   statistical distribution and the second statistical distribution to a
20   statistical distribution of a customer database to determine if at
21   least one of the training data set and the testing data set are
22   geographically representative of a customer population
23   represented by the customer database,

24   modifies selection of entries in one or more of the training data
25   set and the testing data set based on the discrepancy between
26   the first statistical distribution and the second distribution, and

27   provides the modified selection of entries for use by the
28   predictive algorithm; and

29   [3] a predictive algorithm device that uses the modified
30   selection of entries and the predictive algorithm.

31

32   29. A computer program product in a computer readable
33   medium comprising instructions for enabling a data processing

1   machine to select data sets for use with a predictive algorithm
2   based on data network geographical information, comprising:

3   [1] first instructions for generating a first statistical distribution
4   of a training data set;

5   [2] second instructions for generating a second statistical
6   distribution of a testing data set;

7   [3] third instructions for using the first statistical distribution
8   and the second statistical distribution to identify a discrepancy
9   between the first statistical distribution and the second
10   statistical distribution with respect to the data network
11   geographical information by comparing at least one of the first
12   statistical distribution and the second statistical distribution to a
13   statistical distribution of a customer database to determine if at
14   least one of the training data set and the testing data set are
15   geographically representative of a customer population
16   represented by the customer database;

17   [4] fourth instructions for modifying selection of entries in one
18   or more of the training data set and the testing data set based on
19   the discrepancy between the first statistical distribution and the
20   second statistical distribution; and

21   [5] fifth instructions for using the modified selection of entries
22   by the predictive algorithm.

23

24   41. A data processing machine implemented method of
25   predicting customer behavior based on data network
26   geographical influences, comprising data processing machine
27   implemented steps of:

28   [1] obtaining data network geographical information regarding
29   a plurality of customers,

30   the data network geographic information comprising frequency
31   distributions of both

32   (i)   number of data network links between a customer
33   geographical location and one or more web site data network
34   geographical locations, and

1   (ii)   size of a click stream for arriving at the one or more web
2   site data network geographical locations;

3   [2] training a predictive algorithm using the data network
4   geographical information; and

5   [3] using the predictive algorithm to predict customer behavior
6   based on the data network geographical information.

7

8   42. An apparatus for predicting customer behavior based on
9   data network geographical influences, comprising:

10   [1] means for obtaining data network geographical information
11   regarding a plurality of customers, the data network geographic
12   information comprising frequency distributions of both

13   (i)   number of data network links between a customer
14   geographical location and one or more web site data network
15   geographical locations, and

16   (ii)   size of a click stream for arriving at the one or more web
17   site data network geographical locations;

18   [2] means for training a predictive algorithm using the data
19   network geographical information; and

20   [3] means for using the predictive algorithm to predict customer
21   behavior based on the data network geographical information.

22

23   43. A computer program product in a computer readable
24   medium comprising instructions for enabling a data processing
25   machine to predict customer behavior based on data network
26   geographical influences, comprising:

27   [1] first instructions for obtaining data network geographical
28   information regarding a plurality of customers, the data network
29   geographic information comprising frequency distributions of
30   both

31   (i)   number of data network links between a customer
32   geographical location and one or more web site data network
33   geographical locations, and

1   (ii)   size of a click stream for arriving at the one or more web
2   site data network geographical locations;

3   [2] second instructions for training a predictive algorithm using
4   the data network geographical information; and

5   [3] third instructions for using the predictive algorithm to
6   predict customer behavior based on the data network
7   geographical information.

8

9   This appeal arises from the Examiner's Non-Final Rejection, mailed

10 June 1, 2007. The Appellant filed an Appeal Brief in support of the appeal

11 on October 31, 2007. An Examiner's Answer to the Appeal Brief was

12 mailed on January 16, 2008.

13

PRIOR ART

15   The Examiner relies upon the following prior art:

Menon	US 5,537,488	Jul. 16, 1996
Wu	US 6,741,967 B1	May 25, 2004

REJECTIONS

20   Claims 1-8, 10-22, 24-35, and 37-43 stand rejected under 35 U.S.C. §

21 101 as directed to non-statutory subject matter.

22   Claims 1, 15, 29, and 41-43 stand rejected under 35 U.S.C. § 112, first

23 paragraph, as lacking a supporting written description within the original

24 disclosure.

1   Claims 1-8, 10-22, 24-35, and 37-43 stand rejected under 35 U.S.C. §

2   103(a) as unpatentable over Menon, Wu, and Appellant's Admitted Prior

3   Art.[2]

4

5   ISSUES

6   The issue of whether the Appellant has sustained its burden of

7   showing that the Examiner erred in rejecting claims 1-8, 10-22, 24-35, and

8   37-43 rejected under 35 U.S.C. § 101 as directed to non-statutory subject

9   matter turns on the category of subject matter and the machine or

10 transformation test.

11   The issue of whether the Appellant has sustained its burden of

12 showing that the Examiner erred in rejecting claims 1, 15, 29, and 41-43

13 under 35 U.S.C. § 112, first paragraph, as lacking a supporting written

14 description within the original disclosure turns primarily on what is meant

15 by "using."

16   The issue of whether the Appellant has sustained its burden of

17 showing that the Examiner erred in rejecting claims 1-8, 10-22, 24-35, and

18 37-43 under 35 U.S.C. § 103(a) as unpatentable over Menon, Wu, and

19 Appellant's Admitted Prior Art turns primarily on whether Wu describes the

20 particular type of analysis claimed.

21

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[2] The Examiner couched this rejection as two separate rejections with the
order of the references cited changed in each rejection. We combine these
rejections for administrative convenience given that the claims are rejected
over the same art in each case.

1   FACTS PERTINENT TO THE ISSUES

2   The following enumerated Findings of Fact (FF) are supported by a

3 preponderance of the evidence.

4   *Facts Related to Claim Construction*

5   01.   The Specification defines data network geography as the

6   collective morass of web sites and web pages that make up the

7   data network navigated to ultimately arrive at the goods and

8   services that customers wish to purchase (Specification 4:16-20).

9   *Facts Related to Appellant's Disclosure*

10   02.   The Specification describes the state of the art at the time of

11   filing as such that, when using artificial intelligence algorithms to

12   discover patterns in behavior exhibited by customers, it is

13   necessary to create training data sets where a predicted outcome is

14   known as well as testing data sets where the predicted outcome is

15   known to be able to validate the accuracy of a predictive

16   algorithm. The predictive algorithm, for example, may be

17   designed to predict a customer's propensity to respond to an offer

18   or his propensity to buy a product. It was also known that ease of

19   access to various goods and services may also influence the

20   customer's ultimate purchase patterns. That is, if a customer is

21   able to obtain access to the goods and services more easily, the

22   customer is typically more likely to engage in the purchase of such

23   goods and services (Specification 3:10 – 4:13).

24   03.   The Specification describes using the modified selection of

25   entries by a predictive algorithm. The Specification states that if a

26   user inputs request parameters for requesting a prediction of

1   customer behavior, the customer behavior rules will be applied to

2   the input parameters and a customer behavior prediction will be

3   output (Specification 45:16-20).

4   *Menon*

5   04.   Menon is directed to pattern recognition for recognizing input

6   data patterns from a subject and classifying the subject. Menon

7   first performs a training operation in which input training patterns

8   are received and grouped into clusters. Each cluster of training

9   patterns is associated with a category having a category definition

10   based on the training patterns in the cluster. As each training

11   pattern is received, a correlation or distance is computed between

12   it and each of the existing categories. Based on the correlations, a

13   best match category is selected. The best match correlation is

14   compared to a preset training correlation threshold. If the

15   correlation is above the threshold, then the training pattern is

16   added to the cluster of the best match category, and the definition

17   of the category is updated in accordance with a learning rule to

18   include the contribution from the new training pattern. If the

19   correlation is below the threshold, a new category defined by the

20   training pattern is formed, the cluster of the new category having

21   only the single training pattern (Menon 1:22-40).

22   05.   To label categories, Menon counts the number of training

23   patterns of each class within the pattern cluster of each category.

24   It uses the counts to generate a *training class histogram* for each

25   category which shows the number of training patterns of each

26   class within the category's cluster. Menon uses the training

1 histograms of the categories to assign labels to the categories

2 (Menon 2:21-42).

3 06. Menon combines the learning features of adaptive pattern

4 recognition systems such as neural networks with statistical

5 decision making to perform its classifications. The definition of

6 categories during training, the labeling of the categories and the

7 output classifications are all performed in terms of histograms.

8 Thus, the classifications are associated with a probability of

9 correct classification (Menon 4:14-21).

10 07. When Menon's system is trained, it receives training data

11 patterns from various subjects or classes. Each training pattern is

12 associated with a known class and takes the form of a feature

13 pattern vector I_{INP}. Each category definition I_k is expressed in a

14 vector format compatible with the feature vector. As each pattern

15 vector is received, a correlation C_{TRN} between it and each existing

16 category definition is performed. The correlation C_{TRN} is then

17 compared to a preset training threshold λ_{TRN}. If a category is

18 found for which the correlation C_{TRN} exceeds the threshold λ_{TRN},

19 then the training pattern is added to the cluster of that category,

20 and the definition vector I_k of that category is modified to

21 incorporate the effects of the feature vector I_{INP} of the input

22 pattern. If more than one category has a correlation C_{TRN} above

23 the threshold λ_{TRN}, I_k for the best match category, i.e., the category

24 with the highest correlation, is modified and the training pattern is

25 added to the cluster of that category (Menon 5:38 – 6:7).

26 *Wu*

1   08.   Wu is directed to providing Web product managers with quick

2   and detailed feedback on a visitor's satisfaction of the Web

3   product managers' own and competitive products. Specifically,

4   Wu aids a customer in designing a usability test for typical tasks

5   faced by a visitor to the customer's site. Wu administers a

6   usability test to a pre-qualified pool of testers meeting desired

7   demographic constraints. The usability tests measure a visitor's

8   success in achieving the visitor's objectives and also prompt for

9   context-specific feedback ranging from the aesthetics of the

10   design of the customer's site to a reason why a page request was

11   terminated. Statistics are aggregated across the testing population

12   and are presented as data with recommended actions backed up by

13   analysis (Wu 4:26-50).

14   09.   Wu describes a sample test script for testing the usability of a

15   web site. This script states that among the implicit data to be

16   collected are links clicked on, links seen per page, and number of

17   distinct sites visited (Wu 18:Table B).

18   10.   Wu describes combining collected data with data from other

19   clients in the analysis. The data sent may either be in raw form, or

20   summary statistics after processing has been performed at the

21   client (Wu 32:2-6).

22   11.   Wu describes using its test to determine if a purchase rate

23   increase was due to better navigational cues and other factors (Wu

24   36: 24-31).

25   12.   Wu describes performing additional analysis on the gathered

26   data. This analysis may include simple aggregation (sums and

1   averages, for example), selection (production of a subsample) of

2   "typical" data, finding outliers and either excluding them or

3   focusing on them, measuring correlations between data factors,

4   measuring the confidence in a hypothesis (Wu 33:48-55).

5 *Facts Related To Differences Between The Claimed Subject Matter And The*
6 *Prior Art*

7   13.   None of the references describe determining if a training data

8   set or testing data set are geographically representative of a

9   customer population represented by the customer database.

10   14.   None of the references describe obtaining data network

11   geographical information comprising frequency distributions of

12   the number of data network links between a customer

13   geographical location and one or more web site data network

14   geographical locations.

15 *Facts Related To The Level Of Skill In The Art*

16   15.   Neither the Examiner nor the Appellant has addressed the level

17   of ordinary skill in the pertinent arts of systems analysis and

18   programming, predictive systems, training systems, and customer

19   analysis. We will therefore consider the cited prior art as

20   representative of the level of ordinary skill in the art. *See Okajima*

21   *v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) ("[T]he

22   absence of specific findings on the level of skill in the art does not

23   give rise to reversible error 'where the prior art itself reflects an

24   appropriate level and a need for testimony is not shown'")

25   (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755

26   F.2d 158, 163 (Fed. Cir. 1985)).

27 *Facts Related To Secondary Considerations*

1   16.   There is no evidence on record of secondary considerations of

2   non-obviousness for our consideration.

3

4   PRINCIPLES OF LAW

5   *Claim Construction*

6   During examination of a patent application, pending claims are

7   given their broadest reasonable construction consistent with the

8   specification. *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969); *In*

9   *re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).

10   Limitations appearing in the specification but not recited in the claim are

11   not read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364,

12   1369 (Fed. Cir. 2003) (claims must be interpreted "in view of the

13   specification" without importing limitations from the specification into the

14   claims unnecessarily).

15   Although a patent applicant is entitled to be his or her own lexicographer

16   of patent claim terms, in *ex parte* prosecution it must be within limits. *In re*

17   *Corr*, 347 F.2d 578, 580 (CCPA 1965). The applicant must do so by placing

18   such definitions in the specification with sufficient clarity to provide a

19   person of ordinary skill in the art with clear and precise notice of the

20   meaning that is to be construed. *See also In re Paulsen*, 30 F.3d 1475, 1480

21   (Fed. Cir. 1994) (although an inventor is free to define the specific terms

22   used to describe the invention, this must be done with reasonable clarity,

23   deliberateness, and precision; where an inventor chooses to give terms

24   uncommon meanings, the inventor must set out any uncommon definition in

25   some manner within the patent disclosure so as to give one of ordinary skill

26   in the art notice of the change).

1 *Statutory Subject Matter*

2   [Whether a] patent is invalid for failure to claim statutory
3   subject matter under § 101, is a matter of both claim
4   construction and statutory construction.

5   *State St. Bank & Trust Co. v. Signature Fin. Group*, 149 F.3d 1368, 1370

6 (Fed. Cir. 1998).

7   Whoever invents or discovers any new and useful process,
8   machine, manufacture, or composition of matter, or any new
9   and useful improvement thereof, may obtain a patent therefor,
10   subject to the conditions and requirements of this title.

11 35 U.S.C. § 101.

12   [T]he Court has held that a claim is not a patent-eligible
13   "process" if it claims "laws of nature, natural phenomena, [or]
14   abstract ideas." *Diamond v. Diehr*, 450 U.S. 175, 185, 101
15   S.Ct. 1048, 67 L.Ed.2d 155 (1981) (citing *Flook*, 437 U.S. at
16   589, 98 S.Ct. 2522, and *Gottschalk v. Benson*, 409 U.S. 63, 67,
17   93 S.Ct. 253, 34 L.Ed.2d 273 (1972)). Such fundamental
18   principles [as "laws of nature, natural phenomena, [or] abstract
19   ideas"] are "part of the storehouse of knowledge of all men ...
20   free to all men and reserved exclusively to none." *Funk Bros.*
21   *Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130, 68 S.Ct.
22   440, 92 L.Ed. 588 (1948); *see also Le Roy v. Tatham*, 55 U.S.
23   (14 How.) 156, 175, 14 L.Ed. 367 (1852) ("A principle, in the
24   abstract, is a fundamental truth; an original cause; a motive;
25   these cannot be patented, as no one can claim in either of them
26   an exclusive right."). "Phenomena of nature, though just
27   discovered, mental processes, and abstract intellectual concepts
28   are not patentable, as they are the basic tools of scientific and
29   technological work." *Benson*, 409 U.S. at 67. . . .

30 *In re Bilski*, 545 F.3d 943, 952 (Fed. Cir. 2008) (footnote omitted).

31   The Court in *Diehr* thus drew a distinction between those
32   claims that "seek to pre-empt the use of" a fundamental
33   principle, on the one hand, and claims that seek only to
34   foreclose others from using a particular "*application*" of that
35   fundamental principle, on the other. 450 U.S. at 187, 101 S.Ct.

1   1048. Patents, by definition, grant the power to exclude others
2   from practicing that which the patent claims. *Diehr* can be
3   understood to suggest that whether a claim is drawn only to a
4   fundamental principle is essentially an inquiry into the scope of
5   that exclusion; i.e., whether the effect of allowing the claim
6   would be to allow the patentee to pre-empt substantially all uses
7   of that fundamental principle. If so, the claim is not drawn to
8   patent-eligible subject matter.

9   *Id.* 545 F.3d at 953.

10   The Supreme Court . . . has enunciated a definitive test to
11   determine whether a process claim is tailored narrowly enough
12   to encompass only a particular application of a fundamental
13   principle rather than to pre-empt the principle itself. A claimed
14   process is surely patent-eligible under § 101 if: (1) it is tied to a
15   particular machine or apparatus, or (2) it transforms a particular
16   article into a different state or thing. *See Benson,* 409 U.S. at
17   70, 93 S.Ct. 253 ("Transformation and reduction of an article
18   'to a different state or thing' is the clue to the patentability of a
19   process claim that does not include particular machines.");
20   *Diehr,* 450 U.S. at 192, 101 S.Ct. 1048 (holding that use of
21   mathematical formula in process "transforming or reducing an
22   article to a different state or thing" constitutes patent-eligible
23   subject matter); *see also Flook,* 437 U.S. at 589 n.9, 98 S.Ct.
24   2522 ("An argument can be made [that the Supreme] Court has
25   only recognized a process as within the statutory definition
26   when it either was tied to a particular apparatus or operated to
27   change materials to a 'different state or thing' "); *Cochrane v.*
28   *Deener,* 94 U.S. 780, 788, 24 L.Ed. 139 (1876) ("A process is
29   . . . an act, or a series of acts, performed upon the subject-
30   matter to be transformed and reduced to a different state or
31   thing.").
32

33   *Id.* 545 F.3d at 954 (footnote omitted).

34   The machine-or-transformation test is a two-branched inquiry;
35   an applicant may show that a process claim satisfies § 101
36   either by showing that his claim is tied to a particular machine,

1   or by showing that his claim transforms an article. *See Benson,*
2   409 U.S. at 70, 93 S.Ct. 253. Certain considerations are
3   applicable to analysis under either branch. First, as illustrated
4   by *Benson* and discussed below, the use of a specific machine
5   or transformation of an article must impose meaningful limits
6   on the claim's scope to impart patent-eligibility. *See Benson,*
7   409 U.S. at 71-72, 93 S.Ct. 253. Second, the involvement of
8   the machine or transformation in the claimed process must not
9   merely be insignificant extra-solution activity. *See Flook,* 437
10   U.S. at 590 . . . .

11 *Id.* 545 F.3d at 961-62.

12 *Written Description*

13   The first paragraph of 35 U.S.C. § 112 requires that the specification

14 shall contain a written description of the invention. This requirement is

15 separate and distinct from the enablement requirement. *See, e.g., Vas-Cath,*

16 *Inc. v. Mahurkar,* 935 F.2d 1555, 1563-64 (Fed. Cir. 1991).

17   The "written description" requirement implements the principle
18   that a patent must describe the technology that is sought to be
19   patented; the requirement serves both to satisfy the inventor's
20   obligation to disclose the technologic knowledge upon which
21   the patent is based, and to demonstrate that the patentee was in
22   possession of the invention that is claimed.
23
24 *Capon v. Eshhar,* 418 F.3d 1349, 1357 (Fed. Cir. 2005).

25   One shows that one is "in possession" of *the invention* by
26   describing *the invention,* with all its claimed limitations, not
27   that which makes it obvious. *Id.* ("[T]he applicant must also
28   convey to those skilled in the art that, as of the filing date
29   sought, he or she was in possession *of the invention.* The
30   invention is, for purposes of the 'written description' inquiry,
31   *whatever is now claimed.*") (emphasis in original). One does
32   that by such descriptive means as words, structures, figures,
33   diagrams, formulas, etc., that fully set forth the claimed
34   invention. Although the exact terms need not be used *in haec*
35   *verba, see Eiselstein v. Frank,* 52 F.3d 1035, 1038 . . . (Fed.

1   Cir.1995) ("[T]he prior application need not describe the

2   claimed subject matter in exactly the same terms as used in the

3   claims . . . ."), the specification must contain an equivalent

4   description of the claimed subject matter.

5

6   *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997).

7   It is the disclosures of the applications that count. Entitlement

8   to a filing date does not extend to subject matter which is not

9   disclosed, but would be obvious over what is expressly

10   disclosed. It extends only to that which is disclosed. While the

11   meaning of terms, phrases, or diagrams in a disclosure is to be

12   explained or interpreted from the vantage point of one skilled in

13   the art, all the limitations must appear in the specification. The

14   question is not whether a claimed invention is an obvious

15   variant of that which is disclosed in the specification. Rather, a

16   prior application itself must describe an invention, and do so in

17   sufficient detail that one skilled in the art can clearly conclude

18   that the inventor invented the claimed invention as of the filing

19   date sought.

20 *Id.* at 1571-72.

21 *Obviousness*

22   A claimed invention is unpatentable if the differences between it and

23 the prior art are "such that the subject matter as a whole would have been

24 obvious at the time the invention was made to a person having ordinary skill

25 in the art." 35 U.S.C. § 103(a) (2000); *KSR Int'l Co. v. Teleflex Inc.*, 550

26 U.S. 398, 406 (2007); *Graham v. John Deere Co.*, 383 U.S. 1, 13-14 (1966).

27   In *Graham*, the Court held that that the obviousness analysis is

28 bottomed on several basic factual inquiries: "[(1)] the scope and content of

29 the prior art are to be determined; [(2)] differences between the prior art and

30 the claims at issue are to be ascertained; and [(3)] the level of ordinary skill

31 in the pertinent art resolved." 383 U.S. at 17. *See also KSR*, 550 U.S. at

32 406-07. "The combination of familiar elements according to known

1   methods is likely to be obvious when it does no more than yield predictable

2   results." *Id.* at 416.

3   "When a work is available in one field of endeavor, design incentives

4   and other market forces can prompt variations of it, either in the same field

5   or a different one. If a person of ordinary skill can implement a predictable

6   variation, § 103 likely bars its patentability." *Id.* at 417.

7   "For the same reason, if a technique has been used to improve one

8   device, and a person of ordinary skill in the art would recognize that it would

9   improve similar devices in the same way, using the technique is obvious

10 unless its actual application is beyond his or her skill." *Id.*

11   "Under the correct analysis, any need or problem known in the field

12 of endeavor at the time of invention and addressed by the patent can provide

13 a reason for combining the elements in the manner claimed." *Id.* at 420.

14

15   ANALYSIS

16   *Claims 1-8, 10-22, 24-35, and 37-43 rejected under 35 U.S.C. § 101 as*

17   *directed to non-statutory subject matter.*

18   The Appellant argues each independent claim with the claims that

19 depend from it as a group. The sole exception is that claim 7 is separately

20 argued from parent claim 1.

21   The Examiner found that none of the claims recite a concrete and

22 tangible result. Although they recite using a predictive algorithm they do

23 not recite a concrete and tangible result from using the algorithm. The

24 Examiner also found that claims 29 and 43 do not meet the definition of a

25 true data structure.

18

1   The Appellant contends that the claims each fall within the

2   enumerated categories of statutory subject matter and produce non abstract

3   results (Br. 14-19).

4   With respect to method claim 1 and the claims depending therefrom,

5   we apply the machine-or-transformation test, as described in *Bilski*, to

6   determine whether the subject matter are patent-eligible under 35 U.S.C. §

7   101.

8   These claims recite a series of process steps that are not tied in any

9   manner to a machine. In other words, these claims do not limit the process

10 steps to any specific machine or apparatus. Thus, the claims fail the first

11 prong of the machine-or-transformation test because they are not tied to a

12 particular machine or apparatus. The steps of these process claims also fail

13 the second prong of the machine-or-transformation test because the data

14 does not represent physical and tangible objects.[3] Rather, the data represents

15 information about a generic training and testing data set, which are

16 intangible data. Although the data is compared to a customer database, the

17 customer database is not transformed. Thus, the process of claim 1 and the

18 claims depending therefrom fails the machine-or-transformation test and is

19 not patent-eligible under 35 U.S.C. § 101. We note that the Appellant

20 separately argues claim 7 as generating recommendations (Br. 16).

21 Generating such recommendations transforms nothing. It merely creates

22 abstract subject matter, which is given no patentable weight. This claim

23 fails the machine-or-transformation test for the same reasons.

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[3] Because the data does not represent physical and tangible objects, we need
not reach the issue of whether mere calculation of a number based on inputs

1   Computer program product claim 29 and the claims dependent therefrom

2   recite instructions on a computer readable medium for executing the method

3   steps in claim 1 and its dependent claims. The issue presented by these

4   claims is whether recitation of such steps is more than the manipulation of

5   abstract ideas. We find that the steps performed by the instructions do no

6   more than generate arbitrary data sets, compare them, modify them, and then

7   use them in some unspecified predictive algorithm. Thus, since the data is

8   totally arbitrary and is no more than the abstract representation of ideas that

9   may be equally abstract, the computer program product contains instructions

10   that do no more than manipulate such abstract ideas. *See In re Warmerdam*,

11   33 F.3d 1354, 1360 (Fed. Cir. 1994).

12   Apparatus claim 15 does recite particular structural limitations such as

13   a statistical engine and comparison engine. Similarly, apparatus claim 42

14   recites means that are structurally identified in the Specification. Thus, we

15   find the apparatus claims are directed to specific machines and are

16   accordingly statutory subject matter. Process claim 41 and computer

17   program product claim 43 both recite training a machine and accordingly are

18   directed to machines that have such structure as may be adapted by training.

19   Therefore these claims are drawn to statutory subject matter as well.

20   The Appellant has not sustained its burden of showing that the

21   Examiner erred in rejecting claims 1-8, 10-14, 29-35, and 37-40 rejected

22   under 35 U.S.C. § 101 as directed to non-statutory subject matter.

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of other numbers is a sufficient "transformation" of data to render a process
patent-eligible under § 101.

1   The Appellant sustained its burden of showing that the Examiner

2   erred in rejecting claims 15-22, 24-28, and 41-43 rejected under 35 U.S.C. §

3   101 as directed to non-statutory subject matter.

4   *Claims 1, 15, 29, and 41-43 rejected under 35 U.S.C. § 112, first paragraph,*

5   *as lacking a supporting written description within the original disclosure.*

6   The Examiner found that nowhere in the Appellant's Specification is

7   it explained how the predictive algorithm would predict customer behavior

8   based upon network geographic location.

9   The Appellant contends that the Specification adequately describes

10   how to use the invention (Br. 19-23 and 23-27). Since the issue is the

11   description of use of the predictive algorithm, the Specification 45

12   describing the use of the algorithm is most pertinent (FF 03). The predictive

13   algorithm may be used to generate customer behavior predictions

14   (Specification 45:17-18). That is, the usage of the algorithm is simply

15   generating output from the disclosed algorithm. The Examiner found that

16   the Specification did not describe how to predict customer behavior, but the

17   claim only requires using the algorithm, not predicting behavior. The

18   Specification adequately describes such usage as generating prediction

19   output from the algorithm.

20   The Appellant has sustained its burden of showing that the Examiner

21   erred in rejecting claims 1, 15, 29, and 41-43 under 35 U.S.C. § 112, first

22   paragraph, as lacking a supporting written description within the original

23   disclosure.

21

1   *Claims 1-8, 10-22, 24-35, and 37-43 rejected under 35 U.S.C. § 103(a)*

2   *as unpatentable over Menon, Wu, and Appellant's Admitted Prior Art.*

3   The Examiner found that Wu described determining if a training data

4   set or testing data set are geographically representative of a customer

5   population represented by the customer database (in claims 1-40) and

6   obtaining data network geographical information comprising frequency

7   distributions of the number of data network links between a customer

8   geographical location and one or more web site data network geographical

9   locations (in claims 41-43).

10   The Appellant contends that Wu does not describe such

11   determinations (Br. 28-30). The Examiner pointed to Wu's Table B and

12   column 36, lines 24-30 (Answer 6) and column 24, lines 1-25 (Answer 12).

13   Table B refers to collecting links clicked on and pages visited. Wu

14   column 36, lines 24-30 states that its algorithm can discern whether a rise in

15   purchase rate is due to better navigational cues. Wu, column 24, lines 1-25

16   lists survey questions regarding site visits.

17   None of these makes reference to the number of links between a

18   customer geographical location and one or more web site data network

19   geographical locations or to determining if a training data set or testing data

20   set are geographically representative of a customer population represented

21   by the customer database.

22   The Examiner makes no attempt to map Wu to these specific

23   requirements, but only point us to table B, column 24, lines 1-25, and

24   column 36, lines 24-30. The Examiner does not say that Wu actually states

25   these limitations; only that it would be obvious to use these limitations with

26   Wu – but with no rationale.

1   Thus, the Examiner has not made findings as to why one of ordinary

2   skill would have included the claimed determining if at least one of the

3   training data set and the testing data set are geographically representative of

4   a customer population represented by the customer database, or obtaining

5   data comprising frequency distributions of number of data network links

6   between a customer geographical location and one or more web site data

7   network geographical locations using Wu, and has therefore failed to present

8   a prima facie case.

9

10   CONCLUSIONS OF LAW

11   The Appellant has not sustained its burden of showing that the

12   Examiner erred in rejecting claims 1-8, 10-14, 29-35, and 37-40 rejected

13   under 35 U.S.C. § 101 as directed to non-statutory subject matter.

14   The Appellant has sustained its burden of showing that the Examiner

15   erred in rejecting claims 15-22, 24-28, and 41-43 rejected under 35 U.S.C. §

16   101 as directed to non-statutory subject matter.

17   The Appellant has sustained its burden of showing that the Examiner

18   erred in rejecting claims 1, 15, 29, and 41-43 under 35 U.S.C. § 112, first

19   paragraph, as lacking a supporting written description within the original

20   disclosure.

21   The Appellant has sustained its burden of showing that the Examiner

22   erred in rejecting claims 1-8, 10-22, 24-35, and 37-43 under 35 U.S.C. §

23   103(a) as unpatentable over Menon, Wu, and Appellant's Admitted Prior

24   Art.

DECISION

To summarize, our decision is as follows:

- The rejection of claims 1-8, 10-14, 29-35, and 37-40 rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter is sustained.

- The rejection of claims 15-22, 24-28, and 41-43 rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter is not sustained.

- The rejection of claims 1, 15, 29, and 41-43 under 35 U.S.C. § 112, first paragraph, as lacking a supporting written description within the original disclosure is not sustained.

- The rejection of claims 1-8, 10-22, 24-35, and 37-43 under 35 U.S.C. § 103(a) as unpatentable over Menon, Wu, and Appellant's Admitted Prior Art is not sustained.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2007).

<u>AFFIRMED-IN-PART</u>

hh

Duke Yee
Yee & Associates P C
4100 Alpha Road Suite 1100
Dallas, TX 75244